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| EXAMINER |
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JARRETT, SCOTT L

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3623

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                               |                                  |  |
|------------------------------|-------------------------------|----------------------------------|--|
| <b>Office Action Summary</b> | Application No.<br>09/733,299 | Applicant(s)<br>BLANCO, EDGAR E. |  |
|                              | Examiner<br>Scott L. Jarrett  | Art Unit<br>3623                 |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 January 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 and 12-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 12-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. This **Final** Office Action is in response to Applicant's amendment filed January 31, 2007. Applicant's amendment amended claim 20 and added claim 21, claim 11 being previously canceled. Currently Claims 1-10 and 12-21 are pending.

#### ***Response to Amendment***

2. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action.

#### ***Response to Arguments***

3. Applicant's arguments with respect to claims 1-10 and 12-21 have been considered but are moot in view of the new ground(s) of rejection.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

***Claim Rejections - 35 USC § 101***

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 1-10 and 12-21 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claims, as currently recited, appear to be directed to a compilation of data without any tangible result and are therefore deemed to be non-statutory while the compilation of data may have some real world value (i.e. utility/usefulness) there is no requisite functionality present to satisfy the practical application requirement nor are there any "acts" which transform the data and/or cause a physical transformation to occur outside the computer (i.e. not concrete or tangible) therefore the invention as claimed does not produce a useful, concrete, and tangible result.

Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored in a computer-readable medium, in a computer, on an electromagnetic carrier signal does not make it statutory. See *Diamond v. Diehr*, 450 U.S. 175, 185-86, 209 USPQ 1, 7-8 (1981) (noting that the claims for an algorithm in *Benson* were unpatentable as abstract ideas because "[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer."). Such a result would exalt form over substance. In *re Sarkar*, 588 F.2d 1330, 1333, 200 USPQ 132, 137 (CCPA 1978) ("[E]ach invention must be evaluated as claimed; yet semantogenic considerations preclude a determination based solely on words appearing in the claims. In the final

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analysis under 101, the claimed invention, as a whole, must be evaluated for what it is.") (Abele, 684 F.2d 902, 907, 214 USPQ 682, 687 (CCPA 1982)). See also *In re Johnson*, 589 F.2d 1070, 1077, 200 USPQ 199, 206 (CCPA 1978) ("form of the claim is often an exercise in drafting"). Thus, nonstatutory music is not a computer component and it does not become statutory by merely recording it on a compact disk. Protection for this type of work is provided under copyright law.

A claimed invention is deemed to be statutory, if the claimed invention produces a useful, concrete, and tangible result. An invention, which is eligible for patenting under 35 U.S.C. 101, is in the "useful arts" when it is a machine, manufacture, process or composition of matter, which produces a concrete, tangible, and useful result. The fundamental test for patent eligibility is thus to determine whether the claimed invention produces a "use, concrete and tangible result". See *AT&T v. Excel Communications Inc.*, 172 F.3d at 1358, 50 USPQ2d at 1452 and *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d at 1373, 47 USPQ2d at 1601 (Fed. Cir. 1998).

The test for practical application as applied by the examiner involves the determination of the following factors"

(a) "Useful" - The Supreme Court in *Diamond v. Diehr* requires that the examiner look at the claimed invention as a whole and compare any asserted utility with the claimed invention to determine whether the asserted utility is accomplished. Applying utility case law the examiner will note that:

i. the utility need not be expressly recited in the claims, rather it may be inferred.

ii. if the utility is not asserted in the written description, then it must be well established.

(b) "Tangible"-Applying *In re Warmerdam*, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994), the examiner will determine whether there is simply a mathematical construct claimed, such as a disembodied data structure and method of making it. If so, the claim involves no more than a manipulation of an abstract idea and therefore, is nonstatutory under 35 U.S.C. 101. In *Warmerdam* the abstract idea of a data structure became capable of producing a useful result when it was fixed in a tangible medium, which enabled its functionality to be realized.

(c) "Concrete" - Another consideration is whether the invention produces a "concrete" result. Usually, this question arises when a result cannot be assured. An appropriate rejection under 35 U.S.C. 101 should be accompanied by a lack of enablement rejection, because the invention cannot operate as intended without undue experimentation.

In the present case, claims 1-10 and 12-21 merely recite a computer readable medium having instructions for instantiating a forecasting tool wherein the tool collects and stores a plurality of information in several database tables (i.e. useful and concrete). While the invention may be concrete and/or useful, there does not appear to be any tangible result.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-4, 7-10, 12-16 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tavakoli et al., MMS: A materials management system (1992).

Regarding Claims 1 and 16 Tavakoli et al. teach a forecasting system and method for predicting (determining) future demand (requirements) for quantifiable items in connection with a plurality of projects comprising:

- project data/database having project information for each project including reference to items to be employed in connection with the project (project information module, historical database; Abstract; Column 1, Paragraph 1, Page 144; Column 2, Bullets 2,4, Page 144; Column 2, Paragraph 1, Page 146; Column 1, Paragraph 2, Page 149);

- item data/database having item information for each item associated with the project data including a reference to an algorithm (method, steps, process, etc.) to determine the quantity of the item for a particular project (product master list module, product database, materials used/ordered/received, etc.; Abstract; Column 1, Paragraphs 1, 3, Page 144; Column 2, Bullets, 3,4,16, Page 144; Column 2, Numbers

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3-9, Paragraphs 3-5, Page 145; Column 1, Paragraphs 1-3, Page 146; Tables 1-4; Figures 1-2);

- algorithm data/database associated with/referenced by the item data/database (materials take-off, submittals, material amounts; Column 2, Paragraph 2, Page 143; Column 1, Paragraph 3, Page 144; Column 1, Paragraphs 1-2, Page 146; Tables 2-4; Figure 2);

- populating requirements data/database with information from the project, item and algorithm data/databases by the system/tool (i.e. accumulating data/database by integrating, joining, traversing, querying, etc. the databases for the necessary/required data/information; Column 1, Paragraphs 1, 3, Page 144; Column 2, Page 145; Column 1, Paragraph 1, Page 147; Column 1, Paragraphs 1-3, Page 146; Figure 2; Tables 1-4).



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Table 2 Materials received report, MMS

Materials received on

| Project No. | Vendor code | Delivery TKT. No. | Product code | Product description           | Quantity delivered | Unit  | delivery date |
|-------------|-------------|-------------------|--------------|-------------------------------|--------------------|-------|---------------|
| 9001        | NORWALK     | C0997999          | 22B          | No. 22B Catch Basin Base      | 5.00               | each  | 12/13/90      |
| 9001        | NORWALK     | C0997999          | 22BT         | No. 22b Catch Basin Top       | 5.00               | each  | 12/13/90      |
| 9001        | NORWALK     | C36567855         | IN3B         | Inlet No. 3b Precast Trough   | 1.00               | each  | 12/23/90      |
| 9001        | NORWALK     | C36567855         | IN3BT        | Inlet 3B Top                  | 1.00               | each  | 12/23/90      |
| 9001        | MIDLAND     | 5667              | CONCS        | Concrete Class-S              | 100.00             | cy    | 12/09/90      |
| 9001        | CHAS        | 90                | CURE         | White Pigment Curing Compound | 1.00               | 5 gal | 09/09/89      |

Table 3 Materials used report, MMS

Materials used in week ending 09/09/90

| Project number | Vendor name             | Product description           | Quantity used |
|----------------|-------------------------|-------------------------------|---------------|
| 9001           | Chas E. Phipps Co.      | 4" PVC                        | 50.00         |
| 9001           | Chas E. Phipps Co.      | White Pigment Curing Compound | 11.00         |
| 9001           | Midland Supply Co. Inc. | Concrete Class S              | 546.00        |

Table 4 Invoice verification report, MMS

Materials verified on or after 12/14/90

| Proj. No. | Vendor code | Del. TKT. No. | Prod. code | Product description    | Quant. delvd. | Unit  | Del. date | Ver. date |
|-----------|-------------|---------------|------------|------------------------|---------------|-------|-----------|-----------|
| 9001      | MIDLAND     | 5667          | CONCS      | Concrete Class S       | 100.00        | cy    | 12/09/90  | 12/13/90  |
| 9001      | CHAS        | 90            | CURE       | White Pigment Cur. Com | 1.00          | 5 gal | 09/09/89  | 12/12/90  |

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| JOB # | ACCT # | DESCRIPTION             | ITEM                  | QTY. | P.O. # | DATE | SUPPLIER | REQ  | REC. DATE | SUB. TO | REIN. FROM | TO    | C | DELIVERY | DELIVERY | DELIVERY | COMPL. DATE | DATE SENT TO | CLS OUT | REMARKS |
|-------|--------|-------------------------|-----------------------|------|--------|------|----------|------|-----------|---------|------------|-------|---|----------|----------|----------|-------------|--------------|---------|---------|
| 8101  | 0000   | CONTRACT REQUIREMENT    | INSURANCE CERTIFICATE |      | 0410   |      | 0410     | 2451 | 2451      | 21851   | 21851      | 21851 | 1 |          |          |          |             |              |         |         |
| 8101  | 0000   | CONTRACT REQUIREMENT    | LIST OF SUBMITTALS    |      | 0410   |      | 0410     | 2451 | 2451      | 21851   | 21851      | 21851 | 1 |          |          |          |             |              |         |         |
| 8101  | 0000   | CONTRACT REQUIREMENT    | LIST OF SUBMITTALS    |      | 0410   |      | 0410     | 2451 | 2451      | 21851   | 21851      | 21851 | 1 |          |          |          |             |              |         |         |
| 8101  | 0000   | CONTRACT REQUIREMENT    | LIST OF SUBMITTALS    |      | 0410   |      | 0410     | 2451 | 2451      | 21851   | 21851      | 21851 | 1 |          |          |          |             |              |         |         |
| 8101  | 0000   | CONTRACT REQUIREMENT    | MECHANICAL SCHEDULES  |      | 0410   |      | 0410     | 2451 | 2451      | 21851   | 21851      | 21851 | 1 |          |          |          |             |              |         |         |
| 8101  | 02300  | EARTH RETENTION SYSTEMS | SHIP DRAWINGS         |      | 0410   |      | 0410     | 2451 | 2451      | 21851   | 21851      | 21851 | 1 |          |          |          |             |              |         |         |
| 8101  | 02300  | EARTH RETENTION SYSTEMS | CALCULATIONS          |      | 0410   |      | 0410     | 2451 | 2451      | 21851   | 21851      | 21851 | 1 |          |          |          |             |              |         |         |
| 8101  | 02710  | FENCES                  | SHIP DRAWINGS         |      | 0410   |      | 0410     | 2451 | 2451      | 21851   | 21851      | 21851 | 1 |          |          |          |             |              |         |         |
| 8101  | 03100  | FORMWORK                | SHIP DRAWINGS         |      | 0410   |      | 0410     | 2451 | 2451      | 21851   | 21851      | 21851 | 1 |          |          |          |             |              |         |         |
| 8101  | 03200  | REINFORCEMENT           | SHIP DRAWINGS         |      | 0410   |      | 0410     | 2451 | 2451      | 21851   | 21851      | 21851 | 1 |          |          |          |             |              |         |         |
| 8101  | 04400  | 610-E                   | SAMPLES               |      | 0410   |      | 0410     | 2451 | 2451      | 21851   | 21851      | 21851 | 1 |          |          |          |             |              |         |         |
| 8101  | 00000  | METAL FABRICATIONS      | SHIP DRAWINGS         |      | 0410   |      | 0410     | 2451 | 2451      | 21851   | 21851      | 21851 | 1 |          |          |          |             |              |         |         |

Figure 2 Typical SUBMIT report, MMS

Tavakoli et al. teach the well-known utilization of databases, which inherently comprise one or more database tables, for the purposes of storing, accessing and reporting on the plurality of project and item data. Tavakoli et al. is silent on the specific labels used for data/database tables in the database management; however, these differences are only found in the non-functional descriptive material and are not functionally involved in the steps recited nor do they alter the recited structural elements. The recited method steps would be performed the same regardless of the specific labels used to describe the data tables in the database. Further, the structural elements remain the same regardless of the specific labels used to describe the data tables in the database. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability, see *In re Gulack*, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983); *In re Lowry*, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994); MPEP 2106.

Regarding Claim 2 Tavakoli et al. teach a forecasting system and method (tool) wherein the quantifiable items include at least one of the following (selected from the group consisting of): parts, materials, equipment, labor, time or combinations thereof (Column 1, Paragraphs 1, 3, Page 144; Column 2, Page 145; Column 1, Paragraph 1, Page 147; Column 1, Paragraphs 1-3, Page 146; Figure 2; Tables 1-4).

Regarding Claim 3 Tavakoli et al. teach a forecasting system and method further comprising a database server for controlling and coordinating the database.

Regarding Claim 4 Tavakoli et al. is silent as to the architecture of the database management system and specifically does not expressly teach that the databases are distributed across several computers as claimed.

Official notice is taken that the utilization of distributed databases (distributed database management systems, client/server, etc.) is old and very well known wherein distributed databases provide a plurality of benefits/advances including at least transparency (distribution/network, replication, fragmentation), increased reliability and availability or improve performance (Elmasri et al. Chapter 24.1.2 Advantages of Distributed Databases, Pages 767, 769-770). Support for this officially noticed fact can be found in at least the following reference: Elmasri et al., Fundamentals of Database Systems (2000): Chapter 24 Distributed Databases and Client Server Architecture (Pages 765-795).

It would have been obvious to one skilled in the art at the time of the invention that the system and method for materials management as taught by Tavakoli et al. with its utilization of well known database management systems would have benefited from utilizing any of a plurality of well known database architectures/structures/designs including but not limited to distributed databases in view of the teachings of official notice; the resultant system/method providing transparency and/or improved reliability and availability.

Regarding Claim 8 Tavakoli et al. teach a forecasting system and method wherein the item information further includes identification of at least one supplier and further includes a supplier (vendor) data/database table having supplier/vendor information associated with/referenced by the item table and information about items supplied by the supplier (vendor information module; product database, master product list; Abstract; Column 2, Bullet 16, Page 144; Column 2, Numbers 2-4, Paragraphs 2-4, Page 145; Column 1, Paragraph 1, Page 147; Figure 2).

Regarding Claim 9 Tavakoli et al. teach a forecasting system and method wherein the information for each supplied item includes at least one of the following (selected from the group consisting of) prices (cost), lead-time or capacity (Column 1, Paragraph 1, Page 144; Column 2, Paragraph 3, Page 145; Column 1, Paragraph 1, Page 147; Tables 1-4; Figures 1-2).

Regarding Claim 10 Tavakoli et al. teach a forecasting system and method wherein the algorithm that calculates a quantity of an item includes at least one of the following: a mathematical calculation with the available data, based on the quantity of another item, refers to a look-up table or combinations thereof (materials take-off, project item interdependencies, submittals, etc.; Column 1, Paragraph 3, Page 144; Column 2, Paragraph 2, Page 143; Figures 1-2, Tables 1-4).

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Regarding Claim 12 Tavakoli et al. teach a forecasting system and method wherein the requirements data/database table includes a project, item for the project and an amount of the item required for the project (Abstract; Column 1, Paragraphs 1, 3, Page 144; Column 2, Bullets 2-4, 16, Page 144; Paragraphs 1-3, Page 146; Tables 1-4, Figure 2).

Regarding Claim 13 Tavakoli et al. teach a forecasting system and method wherein the requirements data/database table is further populated with information including the date when the item is needed for the project (Column 1, Paragraphs 1, 3, Page 144; Column 1, Paragraphs 1-3, Page 146; Column 1, Paragraph 1, Page 147; Figure 2; Tables 2-4).

Regarding Claim 14 Tavakoli et al. teach a forecasting system and method wherein the requirements data/database table is further populated with information include the date when the item must be ordered to satisfy he date when the item is needed (Column 1, Paragraphs 1, 3, Page 144; Column 1, Paragraphs 1-3, Page 146; Column 1, Paragraph 1, Page 147; Figure 2; Tables 2-4).

Regarding Claim 15 Tavakoli et al. teach a forecasting system and method wherein the requirements data/database table further comprises information about the supplier the item is to be ordered from (Column 1, Paragraphs 1, 3, Page 144; Column 1, Paragraphs 1-3, Page 146; Column 1, Paragraph 1, Page 147; Figure 2; Tables 2-4).

Regarding Claim 19 Tavakoli et al. teach a forecasting system and method wherein the item information further includes identification of at least one supplier and further includes a supplier (vendor) data/database table having supplier/vendor information associated with/referenced by the item table and information about items supplied by the supplier (vendor information module; product database, master product list; Abstract; Column 2, Bullet 16, Page 144; Column 2, Numbers 2-4, Paragraphs 2-4, Page 145; Column 1, Paragraph 1, Page 147; Figure 2) and further comprising determining a supplier of the needed item, obtaining lead-time information for the item and calculating an order data based on the item requirement data and the lead-time information (Column 1, Paragraphs 1, 3, Page 144; Column 2, Paragraphs 2-3, Page 145; Column 1, Paragraph 1, Page 147; Tables 2-4; Figure 2).

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8. Regarding Claims 6-7 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tavakoli et al., MMS: A materials management system (1992) as applied to claims 1-4, 7-10, 12-16 and 19 above further in view of Hendrickson, Chris, Project Management for Construction (1998).

Regarding Claims 6-7 and 18 Tavakoli et al. teach a system and method for forecasting quantifiable items for a project further comprising (Column 2, Paragraph 2, Page 143; Column 1, Paragraph 1, Page 144; Column 1, Paragraph 1, Page 147; Tables 2-4; Figure 2):

- at least one key date/moment for the project to which a need for an item for the project is reference and wherein the information includes how to calculate a date when the item is required based on the key moment/project data;
- determining the date that the moment/project requirement is;
- calculating the data on which the item is required based on the determined date.

Tavakoli et al. teach the well-known utilization of databases, which inherently comprise one or more database tables, for the purposes of storing, accessing and reporting on the plurality of project and item data. Tavakoli et al. is silent on the specific labels used for data/database tables in the database management; however, these differences are only found in the non-functional descriptive material and are not functionally involved in the steps recited nor do they alter the recited structural



elements. The recited method steps would be performed the same regardless of the specific labels used to describe the data tables in the database. Further, the structural elements remain the same regardless of the specific labels used to describe the data tables in the database. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability, see *In re Gulack*, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983); *In re Lowry*, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994); MPEP 2106.

While the utilization of milestones in project management is old and very well known Tavakoli et al. does not expressly teach the phrase milestone to mark/label the key moment in the project when the items are needed/required/demanded.

Hendrickson teaches the old and very well know practice of utilizing milestones to label/mark key moments in a projects timeline/schedule (Paragraph 4, Page 107; Paragraph 2, Page 112; Bullet 2, Page 184; Paragraphs 5-6, Page 184; Figure 9-6) in an analogous art of project management for the purposes of labeling/indicating the beginning and/or end of key activities/moments or mark the arrival of required quantifiable items ("Occasionally, it is useful to define activities which have no duration to mark important events. For example, receipt of equipment on the construction site may be defined as an activity since other activities would depend upon the equipment availability and the project manager might appreciate formal notice of the arrival.", Paragraph 4, Page 107).

Hendrickson further teaches the well-known integration of materials management methods/techniques/systems within the project management of construction projects (Section 4.6 Materials Management, Pages 36-38; "For example, activities can be inserted in the project schedule to represent purchasing of major items such as elevators for buildings. The availability of materials may greatly influence the schedule in projects with a fast track or very tight time schedule: sufficient time for obtaining the necessary materials must be allowed.", Paragraph 2, Page 37; Section 4.7 Material Procurement and Delivery, Pages 38-40) as well as the need for a centralized materials management system/method for managing a plurality of projects (Paragraph 3, Page 37).

It would have been obvious to one skilled in the art at the time of the invention that the forecasting system and method as taught by Tavakoli et al. would have benefited from the very well known practice of labeling key project moments/dates as milestones in view of the teachings of Hendrickson; the resultant system/method enabling project managers to mark/indicate key moments in the project including such moments as the delivery of required identifiable items (Hendrickson: Paragraph 2, Page 37).

9. Claims 5, 17 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tavakoli et al., MMS: A materials management system (1992) in view of Hendrickson, Chris, Project Management for Construction (1998) as applied to Claims 1-4, 6-10, 12-16 and 18-20 above and further in view of Wolters et al., U.S. Patent No. 5,826,252.

Regarding Claims 5 and 17 Tavakoli et al. teach a forecasting system and method further comprising:

- project information that identifies the project (project code, project number, reference number) wherein the project identifier is referenced by the project data/database table and each item employed in connection with the project (Column 2, Page 145; Tables 2-4; Figure 2);
- determining the item needed for the project according to the project identifier (Column 1, Paragraphs 1-3, Page 146; Column 1, Paragraph 1, Page 147; Tables 2-4; Figure 2).

Tavakoli et al. further teaches storing and utilizing historical as well as frequently used data associated with projects, items (products, materials) and suppliers/vendors to build new projects (Column 1, Paragraph 1, Page 144; Column 2, Bullets 4, 16, Page 144).

Tavakoli et al. does not expressly teach that the project information includes a project-type as claimed.

Wolters et al. teaches that the project information including utilizing project types, expressed using master project templates and checklists (Column 1, Lines 60-68; Column 2, Lines 1-8; Column 5, Lines 57-68; Column 10, Lines 10-31) for the purposes of standardizes the project management approach as well as share lessons learned/best practices amongst a plurality of projects of similar type (Column 1, Lines 15-57).

It would have been obvious to one skilled in the art at the time of the invention that the system and method for forecasting quantifiable items required/demanded for a project as taught by the combination of Tavakoli et al. and Hendrickson with its ability to store project-specific/referenced information regarding items and vendors would have benefited from enabling users to utilize/identify project-types, via master templates, in view of the teachings of Wolters et al.; the resultant system/method standardizing the project management approach as well as share lessons learned/best practices amongst a plurality of projects of similar type (Wolters et al.: Column 1, Lines 15-57).

Regarding Claims 20 and 21 Tavakoli et al. teach a forecasting system and method comprising:

- data/database tables for predicting (forecasting, estimating, planning, etc.) future demand (requirements) for quantifiable items (personnel, labor, equipment, supplies, materials, etc.) in connection with a plurality of projects (Column 1, Paragraph

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1, Page 144; Column 2, Bullets 2,4, Page 144; Column 2, Paragraph 1, Page 146; Column 1, Paragraph 2, Page 149);

- wherein the data (tables, databases, files, etc.) include (Column 1, Paragraphs 1, 3, Page 144; Column 2, Paragraph 1, Page 146; Column 2, Page 145; Tables 1-4; Figure 2):
- project information including a reference to items (resources, materials, supplies, labor, equipment, etc.) to be employed in connection with the project, for each project (Abstract; Column 1, Paragraph 3, Page 144; Column 1, Paragraph 1, Page 144; Column 2, Paragraph 1, Page 145; Column 2, Number 2, Page 145);
- item information for each item including a reference to an algorithm employed to determine a quantity of the item for a particular project (historical database, materials take-off, submittals, etc.; Column 2, Paragraph 2, Page 143; Column 2, Bullet 16, Page 144; Column 2, Paragraphs 2-4, Page 145; Column 1, Paragraphs 1-3, Page 146; Tables 1-4);
- requirements information/data populated by the system (tool) using the accumulated information from the data/database tables (submittals, bids, purchase orders, etc.; Column 1, Paragraphs 1, 3, Page 144; Tables 1-4, Figure 2);
- wherein the project information further includes a project identifier (Column 1, Paragraph 1, Page 147; Column 2, Paragraph 1, Page 145; Tables 2-4), at least one project date (key project moment) to which an item for the project is

- needed (order data, delivery date, installation date, etc.; Column 1, Paragraphs 1-3, Page 146; Column 2, Bullet 1, Page 149; Column 1, Paragraph 1, Page 147);
- wherein the item information further includes: a reference to the key moment information; information on how to calculate a date when the item is required based on the date; and identifies at least one item supplier and information on items supplied by the supplier (Column 2, Bullet 16, Page 144; Column 2, Number 2, Page 145; Column 1, Paragraphs 1-3, Page 146; Column 1, Paragraph 1, Page 147; Tables 1-4; Figure 2);
  - wherein the requirements data/table is populated using project, project item, the amount of the item required for the project information, a date when the item is needed for the project and a date when the object must be ordered to satisfy the date the item is needed and a supplier the item is to be ordered from (Column 2, Bullet 16, Page 144; Column 2, Number 2, Page 145; Column 1, Paragraphs 1-3, Page 146; Column 1, Paragraph 1, Page 147; Tables 1-4; Figure 2).

Tavakoli et al. does not expressly teach the phrase milestone to mark/label the key moment in the project when the items are needed/required/demanded.

Hendrickson teaches the old and very well know practice of utilizing milestones to label/mark key moments in a projects timeline/schedule (Paragraph 4, Page 107;

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Paragraph 2, Page 112; Bullet 2, Page 184; Paragraphs 5-6, Page 184; Figure 9-6) in an analogous art of project management for the purposes of labeling/indicating the beginning and/or end of key activities/moments or mark the arrival of required quantifiable items ("Occasionally, it is useful to define activities which have no duration to mark important events. For example, receipt of equipment on the construction site may be defined as an activity since other activities would depend upon the equipment availability and the project manager might appreciate formal notice of the arrival.", Paragraph 4, Page 107).

It would have been obvious to one skilled in the art at the time of the invention that the forecasting system and method as taught by Tavakoli et al. would have benefited from the very well known practice of labeling key project moments/dates as milestones in view of the teachings of Hendrickson; the resultant system/method enabling project managers to mark/indicate key moments in the project including such moments as the delivery of required identifiable items (Hendrickson: Paragraph 2, Page 37).

Tavakoli et al. does not expressly teach that the project information includes a project-type as claimed.

Wolters et al. teaches that the project information including utilizing project types, expressed using master project templates and checklists (Column 1, Lines 60-68;

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Column 2, Lines 1-8; Column 5, Lines 57-68; Column 10, Lines 10-31) for the purposes of standardizes the project management approach as well as share lessons learned/best practices amongst a plurality of projects of similar type (Column 1, Lines 15-57).

It would have been obvious to one skilled in the art at the time of the invention that the system and method for forecasting quantifiable items required/demanded for a project as taught by the combination of Tavakoli et al. and Hendrickson with its ability to store project-specific/referenced information regarding items and vendors would have benefited from enabling users to utilize/identify project-types, via master templates, in view of the teachings of Wolters et al.; the resultant system/method standardizing the project management approach as well as share lessons learned/best practices amongst a plurality of projects of similar type (Wolters et al.: Column 1, Lines 15-57).

While the utilization of project management and materials management methods are well known in the telecommunications industry Tavakoli et al. does not expressly teach that the intended use of the forecasting tool is related to installation projects in the communications industry as claimed.

Official notice is taken that the utilization of project management and/or materials management techniques for installation projects in the communications industry is well known and a common business practice wherein project management and materials



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management enable firms in the communication industry to manage and control large scale projects such as the installation of communication networks/services.

It is noted that the project management and materials management systems and methods disclosed by Tavakoli et al., Hendrickson and Wolters et al. are applicable to any of a plurality of industries and/or project types. That the forecasting system/method's intended field of use is the communications industry, specifically installation projects, does not change the overall functionality of the system. The intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Further it is noted that the intended use of the forecasting system/method merely represents non-functional descriptive material wherein the systems intended field of use is not functionally involved in the steps recited nor do they alter the recited structural elements. The recited method steps would be performed the same regardless of the workload system/method's intended field of use. Further, the structural elements remain the same regardless of the workload system/method's intended field of use. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability, see *In re Gulack*, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983); *In re Lowry*, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994); *MPEP* 2106.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Burns et al., U.S. Patent No. 5,189,606, teach a system and method for forecasting the future demand for quantifiable items in connection with a plurality of projects.
- Hendel et al., U.S. Patent No. 5,655,118, teach a system and method for managing multiple projects.

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- Krause, U.S. Patent No. 5,950,206, teach a system and method for collecting, storing and managing a plurality of project information including quantifiable items necessary to complete the project.

- Wucherer et al., U.S. Patent No. 7,174,339, teach a project management system and method wherein the system utilizes a distributed database architecture to accumulate project information/data from a plurality of distributed project databases (tables) including a procurement subsystem and procurement database having project data related to the procurement/purchasing of materials/supplies necessary to complete the project (e.g. take-off analysis wherein the quantity of an item needed to meet the project demand is determined).

- Passanisi, Materials Procurement (1983), teaches system and method for project procurement management wherein the system ensures that the equipment and materials are available for proceeding with a project.

- Lansford et al., Materials Management in Industrial Construction (1985), teach the well-known business practice of materials management which ensure the "right quality and quantity of materials and equipment are appropriately specified in a timely manner, are procured at a reasonable cost and are available at the point of use when needed. Lansford et al. further teach a material and equipment forecasting tool (system) including material take-off (algorithm for determining the quantities of each item needed to complete the project), vendor evaluation, purchasing and material control.

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- Project Materials Management Primer (1988), teaches the integration of materials management systems/methods as part of project management systems/methods wherein the materials management system identifies, acquires, distributes and disposes of the materials required (demanded) for the project. The article further teaches an algorithm for determining the quantity of items necessary to complete the project (materials takeoff), storing a plurality of project information, developing "materials schedules" which account for such things and vendor specific lead times for purchasing required items.

The article further teaches forecasting item demand for several projects and organizations.

- Ronen, A Decision Support System for Purchasing Management of Large Scale Projects (1988), teach a forecasting tool (system and method) for predicting future demand for quantifiable items (labor, materials, equipment, etc.; purchasing plan) for the purposes of optimizing the ordering time (i.e. accounting for vendor specific lead-time based on historical vendor information) of the required/demanded items and minimizing costs (e.g. calculating the actual order date so that the item will satisfy the date it is needed by the project).

- Silver, Materials Management in Large-Scale Construction Projects (1989), teach the well known utilization of systems/methods for materials management as part of the project management of large-scale projects wherein material management "encompasses the procurement of equipment and material, follow-up, delivery to the job

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site, inventory control at the job site and disposal of surplus material at the end of the project.”

- Marquardt, Total Cost Management via Effective Materials Management (1994), teaches the well known utilization of material management techniques/methods and systems wherein “The materials management process combines and integrates the individual functions of project planning, material take-off, vendor inquiry, and evaluation, purchasing, expediting and transportation, field material control and warehousing.” Marquardt further teaches the utilization of multiple databases (tables) for storing and accumulating (integrating) a plurality of project, supplier and item database wherein the databases are distributed across multiple computers (in-house, vendor furnished).

- Opfer, Just-In-Time Construction Materials Management (1998), teach a system and method for just-in-time materials management wherein the system/method ensures that the materials and components reach the project as close as possible to the time when they are needed for installation (i.e. “the right material reaches the right location online in the right quantity necessary”).

Opfer teaches that the system/method calculates the amount/number of items necessary for the project, the date that the item is required based on project milestones (key moments) and the date that the items must be ordered to satisfy the date when it is needed (order lead times) as well as the systems utilization of databases (tables) to store a plurality of project, item and supplier information. Opfer teaches that “Almost since the development of network scheduling techniques a sine qua of non scheduling

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practice has been the integration of materials procurement time frames into construction project schedules.”

- SP4 Project Materials Management Handbook, teaches the well known application of materials management techniques/methods with project management.

- IR7-3 Procurement and Materials Management, teaches the well-known utilization of “project materials management”.


- Elmasri et al., Fundamentals of Database Systems (2000), teach a plurality of well-known database system fundamentals including the utilization of distributed databases and database servers (Chapter 24).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott L. Jarrett whose telephone number is (571) 272-7033. The examiner can normally be reached on Monday-Friday, 8:00AM - 5:00PM.

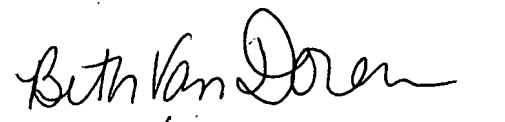
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hafiz Tariq can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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April 25, 2007



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